APPENDIX A

APPENDIX A

WYOMING BUREAU OF LAND MANAGEMENT (BLM) MITIGATION GUIDELINES AND STANDARD PRACTICES FOR SURFACE-DISTURBING AND DISRUPTIVE ACTIVITIES

INTRODUCTION

Appendix A provides mitigation *guidelines* and *standard practices* for surface-disturbing and disruptive activities on public lands. Every action authorized on public lands must be in conformance with these guidelines and standard practices (i.e., best management practices). Section A-1 lists the *guidelines* BLM uses when considering ways to reduce surface impacts caused by surface-disturbing and disruptive human activities. The guidelines are derived from the BLM Resource Management Plan (RMP) and are presented for a given activity or program (e.g., surface disturbance, wildlife, special resource, etc.). Section A-2 provides the *standard practices (best management practices)* that may be applied to a given activity or program to reduce surface-disturbance and/or disruptive human activity that BLM has applied as standard practice to similar types of impact.

Appendix A also includes Section A-3, an approach for environmental analysis and mitigation of oil and gas development and other surface disturbing activities; Section A-4, guidelines for erosion control, revegetation and restoration plan; and Section A-5, procedures for processing applications in areas of seasonal restriction. (These additional guidelines were taken from the Green River RMP).

Mitigation Guidelines. The mitigation guidelines are primarily for the purpose of attaining statewide BLM consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas. Rather, consistency is intended to mean similar types of impact are appropriately and consistently mitigated.

Standard Practices. The mitigating standard practices are a more specific standardized set of permit or operation stipulations or conditions of approval for mitigating environmental impacts and resource and land use conflicts for a given activity or program. The determination as to the application of a standard practice is made during the site-specific environmental analysis process.

PURPOSE

The purposes of the "Wyoming BLM Mitigation Guidelines" are 1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and 2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past.

SECTION A-1: MITIGATION GUIDELINES

1. Surface Disturbance Mitigation Guideline

Under Regulation 43 CFR 3101.1-2 and terms of the lease (BLM Form 3100-11), the authorized officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to, modification of siting or design of facilities, timing of operations, and specification of interim and final

reclamation measures, which may require relocating proposed operations up to 200 meters, but not off the leasehold, and prohibiting surface disturbance activities for up to 60 days. Application of reasonable measures greater than 200 meters or more than 60 days would require additional environmental analysis that identifies unnecessary and/or undue impact(s) that would occur if such measures were not applied.

The lands within a lease may include areas not specifically addressed by lease stipulations that may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Possible special areas are identified below. Any surface use or occupancy within such special areas will be strictly controlled or, if absolutely necessary, prohibited in the following areas or conditions. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing wells. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

a. Slopes in excess of 25 percent.
b. Within 500 feet of surface water and/or riparian/wetland/floodplain areas(100 feet from intermittent streams).
c. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.
d. Construction during periods when the soil material is saturated, frozen, or when watershed damage is likely to occur.
e. Within 500 feet of Interstate highways and 200 feet of other existing rights-of-way (i.e., U.S. and State highways, roads, railroads, pipelines, power lines).
f. Within one-quarter mile of occupied dwellings.
g. Material sites.

Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the above conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development and become a condition for approval when authorizing the action.

Specific threshold criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and time periods of concern must be delineated at the field level (i.e., "surface water and/or riparian areas" may include both intermittent and ephemeral water sources or may be limited to perennial surface water).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

2. Wildlife Mitigation Guideline

a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

   Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production activities which indicate potentially adverse impacts (e.g., potential to eliminate a population from an area or herd unit).

   Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

c. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

d. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service (USFWS) guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The intent of the WILDLIFE MITIGATION GUIDELINE is to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and owls (e.g., great horned, short eared, burrowing). The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required. In lieu of case-by-case consultations, cultural resources on large or complex projects can be managed in accordance with Programmatic Agreements, Treatment Plans, Management Plans, Data Recovery Plans or other Agreement Documents. Mitigation is performed in

accordance with established research design, directed to answer specific research questions germane to the site or project under investigation.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, Native American consultation, archival or ethnographic studies, or other physical and administrative measures. If the project is being managed in accordance with an Agreement Document, then groups of actions or undertakings and groups of sites or site types may be managed holistically, precluding site specific consultation or repetitious mitigation. The efficiency obtained by such approaches frequently benefits both the applicant and the BLM and ultimately the cultural resources managed.

Reports documenting results of all cultural resource investigations performed shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800, or in accordance with a project specific Agreement Document.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by a consultant under permit from BLM, contracted by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated or realized extent of damage. Necessary costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective, realistic and take into consideration project requirements and limitations. The mitigation plan shall take into account input from concerned or interested parties and be either BLM-approved or BLM-formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guidelines

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation areas.
b. Within important scenic areas (Class I and II Visual Resource Management Areas).
c. Special natural history or paleontological features.
d. Special management areas.
e. Sections of major rivers.
f. Prior existing rights-of-way.
g. Other (specify).

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupance Guideline

No Surface Occupancy will be allowed on the following described lands (legal Description) because of (resource value).

Example Resource Categories (Select or identify category and specific resource value):

a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).
b. Major reservoirs/dams.
c. Special management area (e.g., known threatened or endangered species habitat, areas suitable for consideration for wild and scenic rivers designation).
d. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

A-2 STANDARD PRACTICES (BEST MANAGEMENT PRACTICES) AND GUIDELINES FOR SURFACE DISTURBING ACTIVITIES

INTRODUCTION

This section describes the *standard practices* utilized to mitigate adverse effects caused by surface disturbing activities.

Standard practices applied to surface disturbing activities are statements of guidelines and techniques for establishing statewide (or national) consistency in avoiding and mitigating environmental impacts and resource conflicts. These practices have been developed through field experience, through planning analyses, through other project specific environmental analyses, and from legal or regulatory directives. They emphasize the Bureau's responsibility to ensure that good construction practices are used on public lands, and they apply to all surface disturbing activities.

Best management practices are developed by state agencies in cooperation with federal agencies to control nonpoint sources of pollution. Section 303(e) of the Clean Water Act and 40 CFR 130.5 require states to maintain a "Water Quality Management Planning Continuing Planning Process." The process must establish procedures for adoption and appeals which, among other items, address BMPs. Best management practices are advisory rather than regulatory. Best management practices are a key element in a state Nonpoint Source Management Plan with which the federal government must comply under Executive Orders 12088 and 12372, and Clean Water Act Sections 319(k) and 301(k). The standard practices in this document are designed to meet the intent of the state's BMPs.

The State of Wyoming has released draft lists of BMPs which address silviculture and hydrology, and has issued a policy statement in lieu of BMPs for minerals and oil and gas. The WDEQ published a final draft of narrative Grazing BMPs in March 1997 and is currently working on publishing a color brochure highlighting grazing BMPs. The state has adopted the policy that the rules and regulations promulgated for oil and gas exploration, mineral extraction, and underground storage tanks shall be considered as the BMPs for these activities.

The Wyoming BLM policy on reclamation assumes that an area can and shall be ultimately reclaimed, and requires that every surface disturbance on public lands receive attention for short-term stabilization and long-term reclamation. Surface disturbance mitigation measures reduce to the extent possible the amount of reclamation that ultimately must take place. The BLM must apply reasonable mitigation and provide guidance for all authorizations. The permit or authorization is the means provided for ensuring that mitigation measures are implemented. Compliance inspections during operations ensure that conditions of approval (COAs) and/or stipulations are being followed. Compliance inspections upon completion of work ensure that both surface and subsurface reclamation procedures have been properly followed.

Standard practices may develop through the NEPA process into stipulations prior to lease or grant insurance, or they may serve as a basis for COAs. If these practices (or newly developed techniques) are already incorporated into plans for development submitted by a permittee, such plans may be approved without the addition of any COAs. The Bureau will consider any project proposal, however the burden is on the applicant to describe the design and construction techniques. If a project's design, scheduling, and construction techniques can mitigate environmental concerns, construction may be allowed without any COAs.

The Pinedale Anticline Project Lessees/Operators will comply with the standards, procedures, and requirements contained in this Appendix, unless otherwise provided for by the Authorized Officer. Failure to comply with the terms and conditions of a lease or permit (lease stipulations; permit conditions of approval - COAs) will constitute a violation of the written order of the Authorized Officer and subject the proponent to penalties provided for under the law.

STANDARD PRACTICES

The following are standard practices applied to surface disturbing activities. These practices are applied, when necessary, to reduce environmental impacts. Large projects may require construction and use plans and/or erosion control, revegetation, and restoration plans which would incorporate these practices. The standard practices in this document are designed to meet the intent of the state's BMPs, and may therefore be subject to revision when the state BMPs are finalized. Although the headings below address specific resources or types of development, these practices apply to all surface disturbing activities. These practices have been developed through experience working with

surface disturbances in the Rock Springs, Pinedale, and Kemmerer Field Areas. Therefore, these are believed to be the best practices available to address a variety of surface disturbance problems. These are not stipulations, but represent concerns that must be addressed in any acceptable proposed surface disturbing activity. Operators are encouraged to review these practices, incorporate them where appropriate into their proposed actions, and where possible develop better methods for achieving the same goals.

The following *standard* mitigation measures, design features, and procedures will be applied to all federal lands within the project area by Operators to minimize impacts to the environment. Exception, modification, or waiver of a mitigation requirement may be granted if a thorough analysis determines that the resource(s) for which the measure was developed will not be impacted by the proposed action or activity. Further site-specific mitigation measures may be identified during the application for permit to drill (APD) and/or right-of-way (ROW) application review processes.

Preconstruction Planning and Design Measures

1. The Operators and/or their contractors and subcontractors will conduct all phases of project implementation, including well location, road and pipeline construction, drilling and completion operations, maintenance, reclamation, and abandonment in full compliance with all applicable federal, state, and local laws and regulations and within the guidelines specified in approved APDs and ROW permits. Lessees and operators shall be held fully accountable for their contractor's and subcontractor's compliance with the requirements of the approved permit and/or plan (43 CFR 3160, Onshore Oil and Gas Order No. 1).

2. Implementation of site-specific activities/actions will be contingent on BLM determining that the activity/action complies with the following plans:

   - Surface Use Plan and/or Plan of Development;
   - Transportation Plan;
   - Reclamation Plan;
   - Hazardous Material Plan or Program (as required by RCRA, SARA);
   - Wildlife Mitigation/Monitoring Plan; and
   - Site-specific APD plans/reports (e.g., road and well pad design plans, cultural clearance, special status plant species clearance, etc.).

   The above plans may be prepared by the Operators for the project area or submitted incrementally with each APD, ROW application, or Sundry Notice (SN).

3. An onsite predrill inspection shall be scheduled and conducted by the BLM within 15 days of receiving a Notice of Staking (NOS) or complete APD. Representatives of the appropriate BLM office, the operator and other interested parties, and the operator's principal dirt and drilling contractors shall attend the predrill inspection. When appropriate, the operator's surveyor and archeologist should also participate in the inspection. When private surface is involved, the BLM shall invite the surface owner to participate in the onsite inspection (43 CFR 3160, Onshore Oil and Gas Order No. 1, III.C.).

4. The BLM will conduct environmental reviews for each APD, ROW application, or SN once final well or facility locations, access road alignments, and/or pipeline routes have been identified.

5. Approval of individual project components (i.e., wells, roads, pipelines, and ancillary facilities) will be contingent on completion and acceptance of a site-specific cultural resource literature search, Class III inventory report, and, as necessary, paleontological inventory; T&E, candidate, and sensitive species surveys; sage grouse lek and nest clearance; raptor nest clearance; and any other clearance specified by the Authorized Officer (AO).

6. Operators will include in the APD, ROW, or other appropriate permit application, discussion of site-specific mitigation and environmental protection measures and a map showing specific locations where these measures will be implemented. Final locations for these measures will be confirmed by BLM and the Operators following on-site inspections of project locations (43 CFR 3160, Onshore Oil and Gas Order No. 1, III.G.4. and 5.).

Roads

1. Roads will be constructed as described in BLM Manual 9113. New main artery roads will be designed to reduce sediment, salt, and phosphate loading to the Green and New Fork Rivers. Where necessary, running surfaces of the roads will be graveled if the base does not already contain sufficient aggregate.

2. Recognized roads, as shown on the BLM Transportation Plan, will be used when the alignment is acceptable for the proposed use. Generally, roads will be required to follow natural contours; provide visual screening by constructing curves etc.; and be reclaimed to BLM standards.

3. To control or reduce sediment from roads, guidance involving proper road placement and buffer strips to stream channels, graveling, proper drainage, seasonal closure, and in some cases, redesign or closure of old roads will be developed when necessary. Construction may also be prohibited during periods when soil material is saturated, frozen, or when watershed damage is likely to occur.

4. Available topsoil will be stripped from all road corridors prior to commencement of construction activities and will be redistributed and reseeded on backslope areas of the borrow ditch after completion of road construction activities. Borrow ditches will be reseeded in the first appropriate season after initial disturbance.

5. On newly constructed roads and permanent roads, the placement of topsoil, seeding, and stabilization will be required on all cut and fill slopes unless conditions prohibit this (e.g., rock). No unnecessary side-casting of material (e.g., maintenance) on steep slopes will be allowed. Snow removal plans may be required so that snow removal does not adversely affect reclamation efforts or resources adjacent to the road.

6. Reclamation of abandoned roads will include requirements for reshaping, recontouring, resurfacing with topsoil, installation of water bars, and seeding on the contour. Road beds, well pads, and other compacted areas will be ripped to a depth of two feet on 1.5 foot centers to reduce compaction prior to spreading the topsoil across the disturbed area. Stripped vegetation will be spread over the disturbance for nutrient recycling, where practical. Fertilization or fencing of these disturbances will not normally be required. Additional erosion control measures (e.g., fiber matting) and road barriers to discourage travel may be required. As deemed necessary by the Authorized Officer, graveled roads, well pads, and other sites will be stripped of usable gravel and hauled to new construction sites prior to ripping. The removal of structures such as bridges, culverts, cattleguards, and signs usually will be required. (See Reclamation section below.)

7. Main artery roads, regardless of primary user, will be crowned, ditched, drained, and, if deemed appropriate by the Authorized Officer, surfaced with gravel to reduce sediment, salt, and phosphate loading to the Green and/or New Fork Rivers.

8. Road closures may be implemented during crucial periods (e.g., wildlife winter periods, spring runoff, and calving and fawning seasons).

9. Unnecessary topographic alterations will be mitigated by avoiding, where possible, steep slopes, rugged topography, and perennial and ephemeral/intermittent drainages, and by minimizing the area disturbed. (See Surface Disturbance Mitigation Guidelines, Page A-2.)

10. Upon completion of construction and/or production activities, operators will restore the topography to near pre-existing contours at well sites, access roads, pipelines, and other facility sites.

11. Detailed practices and procedures as specified in the Transportation Plan for this project (Appendix __) will be followed. Annual review of transportation plans will be conducted to identify the minimum road network required to support annually proposed project activities, as well as construction and maintenance responsibilities of the Operators. The annual review of plans will identify road-specific dust abatement, road construction, surfacing requirements, and other road concerns that need to be addressed.

12. Individual road design plans for new and/or improved roads will be submitted for approval as components of APDs or ROW permits. All new and improved roads will adhere to BLM road design and construction guidelines, and plans must be approved prior to initiation of work. Operators will schedule a review of plans with sufficient time to obtain BLM approval prior to commencement of work.

13. Existing roads will be used to the maximum extent possible and upgraded as necessary.

14. All roads on Federal lands not required for routine operation and maintenance of producing wells, ancillary facilities, livestock grazing administration, or necessary recreation access will be reclaimed as directed by the BLM. These roads will be permanently blocked, recontoured, reclaimed, and revegetated by the Operators, as will disturbed areas associated with permanently plugged and abandoned wells.

15. Site-specific centerline survey and construction designs will be submitted to and approved by the BLM prior to road construction.

16. Operators will comply with existing federal, state, and county requirements and restrictions to protect road networks and the traveling public.

17. Special arrangements will be made with the WDOT to transport oversize loads to the project area. Otherwise, load limits will be observed at all times to prevent damage to existing road surfaces.

18. All development activities along approved ROWs will be restricted to areas authorized in the approved ROW.

19. Roads and pipelines will be located adjacent to existing linear facilities wherever practical.

20. As deemed necessary by the Authorized Officer, Operators and/or their contractors will post appropriate warning signs and require project vehicles to adhere to appropriate speed limits on project-required roads.

21. Dumping of produced water on roads will not be allowed unless total dissolved solids (TDS) are less than 400 mg/l (state standard for the Colorado River drainage) and the water does not contain hazardous material. No produced water will be allowed on roads in Sublette County.

22. Operators will be responsible for necessary preventative and corrective road and bridge maintenance for the duration of the project. Maintenance responsibilities may include, but are not limited to, blading, gravel surfacing, cleaning ditches and drainage facilities, dust abatement, noxious weed control, bridge inspection and repair, or other requirements as directed by the Authorized Officer.

Well Pads and Facilities

1. In conformance with Onshore Oil and Gas Order No. 1, Operators will prepare and submit individual comprehensive drill site design plans for BLM approval. These plans will show the drill location layout over the existing topography, dimension of the location, volumes and cross sections of cut and fill, location and dimensions of reserve pits, existing drainage patterns, and access road egress and ingress. Plans shall be submitted and approved prior to initiation of construction.

2. No surface disturbance is recommended on slopes in excess of 25 percent unless erosion controls can be ensured and adequate revegetation is expected. Engineering proposals and revegetation and restoration plans will be required in these areas.

3. Both produced water and reserve pits should be constructed to ensure protection of surface and ground water. The review to determine the need for installation of lining material will be done on a case-by-case basis and consider soil permeability, water quality, and depth to ground water. Oil-based muds used for drilling operations should be environmentally acceptable.

4. Earthen reserve pits will be used only after evaluation of the pit location for distance to surface waters, depth to useable groundwater, and soil type and permeability (reserve pits will not be located in areas where soil permeability is greater than 10^{-7} cm/hr.), and after evaluation of the fluids which will likely be retained in the pit. Operators will construct reserve pits with 2 ft of freeboard in cut areas or in compacted and stabilized fill. Subsoil material stability and permeability in the area of construction will be evaluated and the need for pit reinforcement assessed. The subsoil material at proposed pit locations will be inspected to assess soil stability and permeability and determine whether reinforcement and/or lining are required. Prior to installation of reserve pit liners and/or fluids, reserve pits will be inspected by BLM personnel.

5. Reserve pit liners must have a mullen burst strength that is equal to or exceeds 300 pounds, a puncture strength that is equal to or exceeds 160 pounds, and grab tensile strengths that are equal to or exceed 150 pounds. There shall be verified test results conducted according to ASTM test standards. The liner must be totally resistant to deterioration by hydrocarbons.

6. If clay soils are used as pit lining, they should have a liquid limit greater than 30 and a Plasticity Index of at least 20. Assuming that bentonite in drilling fluids will sufficiently seal a pit is not a good procedure because the bentonite will not be compacted, and uniform coverage and density will not be achieved. Bentonite is also subject to cracking if it is not designed properly.

7. Uncontrolled or designed settlement of clay particles does not provide a consistently adequate seal on a pit liner. Compaction or permeability testing should be used to determine pit characteristics.

8. Reserve pits will not be located in areas where groundwater is less than 50 feet from the surface. A closed system will be required if water shows in the rat or mouse hole.

9. Produced water from oil and gas operations will be disposed of in accordance with the requirements of Onshore Oil and Gas Order #7.

10. Pits will be fenced as specified in individual authorizations. Any pits with harmful fluids in them shall be maintained in a manner that will prevent migratory bird mortality.

11. Any produced water pit or drilling fluids pit that shows indications of containing hazardous wastes will be tested for the Toxicity Characteristic Leaching Procedure constituents. If analysis proves positive, the fluids will be disposed of in an approved manner. The cost of the testing and disposal will be borne by the potentially responsible party.

12. Disturbances should be reclaimed or managed for zero runoff from the location until the area is stabilized. All excavations and pits should be closed by backfilling and contouring to conform to surrounding terrain. On well pads and larger locations, the surface use plan will include objectives for successful reclamation including: soil stabilization, plant community composition, and desired vegetation density and diversity.

13. On producing locations, operators will be required to reduce slopes to original contours (not to exceed 3:1 slopes). Areas not used for production purposes will be backfilled and blended into the surrounding terrain, reseeded, and erosion control measures installed. Erosion control measures will be required after slope reduction. Facilities will be required to approach zero runoff from the location to avoid contamination and water quality degradation downstream. Mulching, erosion control measures, and fertilization may be required to achieve acceptable stabilization.

14. Abandoned sites must be satisfactorily rehabilitated in accordance with a plan approved by the BLM. Soil samples may be analyzed to determine reclamation potential, appropriate reseeding species, and nutrient deficits. Tests may include: pH, mechanical analysis, electrical conductivity, and sodium content. Terraces or elongated water breaks will be constructed after slope reduction.

Pipelines and Communication Lines

1. No sour gas lines will be located closer than one mile to a populated area or sensitive receptor. The applicants must use the best available engineering design (e.g., alignment, block valve type and spacing, pipe grade), and best construction techniques (e.g., surveillance, warning signs) as approved by the Authorized Officer to minimize both the probability of rupture and radius of exposure in the event of an accidental pipeline release of sour gas. A variance from the one-mile distance may be granted by the Authorized Officer based on detailed site-specific analysis that will consider meteorology, topography, and special pipeline design and(or) construction measures. This analysis will ensure that populated areas and sensitive receptors will not be exposed to an increased level of risk.

2. On ditches exceeding 36 inches in width, 6 to 12 inches of surface soil will be salvaged where possible on the entire right-of-way. When pipelines and communication lines are buried, there will be at least 30 inches of backfill on top of the pipe. Backfill should not extend above the original ground level after the fill has settled. Guides

for construction and water bar placement are found in "Surface Operating Standards for Oil and Gas Exploration and Development" (USDI 1978). Bladed surface materials will be re-spread upon the cleared route once construction is completed. Disturbed areas that have been reclaimed may need to be fenced when the route is near livestock watering areas.

3. Pipeline ROWs will be located to minimize soil disturbance. Mitigation will include locating pipeline ROWs adjacent to access roads to minimize ROW disturbance widths, or routing pipeline ROWs directly to minimize disturbance lengths.

4. Existing crowned and ditched roads will be used for access where possible to minimize surface disturbances. Clearing of pipeline and communication line rights-of-way will be accomplished with the least degree of disturbance to topsoil. Where topsoil removal is necessary, it will be stockpiled (wind-rowed) and re-spread over the disturbance after construction and backfilling are completed. Vegetation removed from the right-of-way will also be required to be re-spread to provide protection, nutrient recycling, and a seed source.

5. Temporary disturbances which do not require major excavation (e.g., small pipelines and communication lines) may be stripped of vegetation to ground level using mechanical treatment, leaving topsoil intact and root mass relatively undisturbed.

6. Trees, shrubs, and ground cover (not to be cleared from rights-of-way) will require protection from construction damage. Backfilling to preconstruction condition (in a similar sequence and density) will be required. The restoration of normal surface drainage will also be required.

7. To promote soil stability, the compaction of backfill over the trench will be required (not to extend above the original ground level after the fill has settled). Wheel or other method of compacting the pipeline trench backfill will be required at two levels to reduce trench settling and water channeling. Once after 3 feet of fill has been replaced and once within 6-12 inches of the surface. Water bars, mulching, and terracing will be required, as needed, to minimize erosion. Instream protection structures (e.g., drop structures) may be required in drainages crossed by a pipeline to prevent erosion. The fencing of linear disturbances near livestock watering areas may be required.

Fire

1. Guidelines for buffer areas (an area in which fire cannot spread) have been prepared to protect developed facilities and areas of highly erodible soils from the impacts of fire.

    a. If the development is located in a grass community, a 15-foot buffer is recommended.
    b. If the development is located in a sagebrush community, a 25-foot buffer is recommended.
    c. In a juniper/tall brush community (serviceberry, aspen, cottonwood, willow), a 50-foot buffer is recommended.
    d. In a conifer community (lodgepole, spruce fir), a buffer area of 25 feet plus the height of the surrounding trees is recommended.

2. The emissions which may be created directly by BLM activities are mitigated by applying best management practices. For example, prescribed fires are conducted to reduce emissions by burning only at appropriate fuel moistures and wind speeds (among other factors) which reduce as much as possible the smoke created. All BLM activities that may potentially cause undesirable air quality impacts are also coordinated with the Wyoming DEQ-ADQ. Permits to conduct these activities are secured (where necessary) before the activity begins, to insure compliance with all federal, state, and local air quality laws.

3. In support of prescribed fire activities, the BLM may temporarily close areas to facilitate operations and to provide for public safety.

Air Quality

1. Bureau actions must comply with all applicable air quality laws, regulations, and standards. As projects are proposed that include possible major sources of air pollutant emissions, air quality protection related stipulations are added to BLM permits and rights-of-way grants. In addition, the BLM coordinates with the Wyoming DEQ-

AQD during the process of analysis. This coordination results in the technical review of applications for permits and(or) identification of additional stipulations to be applied to these permits.

2. The release of hazardous air contaminants, particularly the emissions from sour natural gas sweetening plants (a process used to remove H_2S from natural gas resulting in the emission of sulfur dioxide), is a public concern. BLM requires industry to prepare analyses of risks involved with the development of sour gas pipelines and treatment facilities. These analyses are designed to project impacts both to the public and to resource values. To aid in achieving air quality goals BLM will consult with the State of Wyoming, the USFS, industry, and the public to ensure that the most technically sound, environmentally balanced, and economically feasible decisions are made.

3. In accordance with Wyoming Air Quality Standards and Regulations Section 14(f), the emission of fugitive dust shall be limited by all persons handling, transporting, or storing any material to prevent unnecessary amounts of particulate matter from becoming airborne to the extent that ambient air standards described in these regulations are exceeded. Control measures described as follows or any equivalent method shall be considered appropriate for such control:

   a. Use, where possible, water or chemicals to control dust in the demolition of existing buildings, or structures, construction operations, the grading of roads or the clearing of land;
   b. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which can give rise to airborne dusts;
   c. Installation and use of hood, fans and fabric filters to enclose and vent the handling of dusty materials; adequate containment methods shall be employed during sandblasting or other similar operations;
   d. Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dust;
   e. Conduct of agricultural practices such as tilling of land, application of fertilizers, etc. in such a manner as to prevent dust from becoming airborne;
   f. The paving of roadways and their maintenance in a clean condition;
   g. The prompt removal of earth or other material from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means (Wyoming Air Quality Standards and Regulations, 1989, Section 14, Control of Particulate Emissions).

4. Necessary air quality permits to construct, test, and operate facilities will be obtained from the WDEQ-AQD. All internal combustion equipment will be kept in good working order.

5. Operators will comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans, including Wyoming Ambient Air Quality Standards (WAAQS) and National Ambient Air Quality Standards (NAAQS).

6. Operators may be required to cooperate in the implementation of a supplemental coordinated air quality monitoring program or emissions control program.

7. Operators will water construction sites as necessary to abate fugitive dust.

8. No open burning of garbage or refuse will be allowed at the well sites or other facilities. Any open burning will be conducted under the permitting provisions of Section 13 of the Wyoming Air Quality Standards and Regulations (WDEQ 1989).

Vegetation

1. Removal and disturbance of vegetation will be kept to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage yard and staging area size, etc.).

2. Well locations and associated roads and pipelines will be located to avoid or minimize impacts in areas of high value (e.g., SSPS habitats, wetland/riparian areas).

Soils

1. Current objectives focus on soil conservation planning for surface disturbance actions. Soil conservation should be addressed during the initial phase of any surface disturbing action, thereby maintaining soil productivity and stability levels through the use of existing guidelines and techniques. Some areas may require more thorough soil management practices than others, however, this is dependent on the type and duration of the action and the effect on site-specific soil characteristics.

2. Management of the soil resource will continue to be based upon the following: 1) Evaluation and interpretation of soils in relation to project design and development; 2) Identification and inventory of soils for baseline data; and 3) Identification and implementation of methods to reduce accelerated erosion.

3. Evaluation and interpretation involves identification of soil properties which will influence their use and recommendations for development while minimizing soil loss. Projects will be examined on a site-specific basis, evaluating the potential for soil loss and the compatibility of soil properties with project design. Stipulations and mitigating measures are provided on a case-by-case basis to ensure soil conservation and practical management. Projects requiring soil interpretations include: construction of linear right-of-way facilities (i.e., pipelines, roads, railroads, and power transmission lines); construction of water impoundments; rangeland manipulation through fire or mechanical treatments; construction of plant site facilities, pump stations, well pads and associated disturbances; and reclamation projects.

4. Closures due to saturated soil conditions when soil resource damage will occur due to wheel rutting or compaction on wet soils.

5. Salvage and subsequent replacement of topsoil will be required for surface disturbing activities wherever specified by the Authorized Officer.

6. Surface disturbing activities will generally be limited on slopes greater than 25 percent.

7. Emphasis will be placed on the reduction of soil erosion and sediment into the Green River Basin watershed. Of particular importance will be those areas with saline soils or those areas with highly erodible soils.

8. Identification of critical erosion condition areas will continue during soil surveys, monitoring, site specific project analysis, and activity plan development for the purpose of avoidance and special management.

9. Before a surface disturbing activity is authorized, topsoil depth will be determined. The amount of topsoil to be removed, along with topsoil placement areas, will be specified in the authorization. The uniform distribution of topsoil over the area to be reclaimed will be required, unless conditions warrant a varying depth. On large surface-disturbing projects (e.g., gas processing plants) topsoil will be stockpiled and seeded to reduce erosion. Where feasible, topsoil stockpiles will be designed to maximize surface area to reduce impacts to soil microorganisms. Stockpiles remaining less than two years are best for soil micro-organism survival and native seed viability. It is recommended that stockpiles be no more than 3 to 4 feet high. Long term topsoil stockpiles of more than two years should be no more than 2 feet high. Areas used for spoil storage will be stripped of topsoil before spoil placement. The replacement of topsoil after spoil removal will be required.

10. Operators will avoid adverse impacts to soils by:

    - minimizing disturbance;
    - avoiding construction with frozen soil materials;
    - avoiding areas with high erosion potential (e.g., unstable soil, dunal areas, slopes greater than 25%, floodplains), where possible;
    - salvaging and selectively handling topsoil from disturbed areas;
    - adequately protecting stockpiled topsoil and replacing it on the surface during reclamation;
    - leaving the soil intact (scalping only) during pipeline construction, where possible;
    - using appropriate erosion and sedimentation control techniques including, but not limited to, diversion terraces, riprap, and matting;
    - promptly revegetating disturbed areas using adapted species;

- applying temporary erosion control measures such as temporary vegetation cover, application of mulch, netting, or soil stabilizers; and/or
- construction of barriers as appropriate in certain areas to minimize wind and water erosion and sedimentation prior to vegetation establishment.

Specific measures and locations will be specified in Surface Use Plans or Plans of Development prepared during the APD and/or ROW application processes.

11. Appropriate erosion control and revegetation measures will be employed. Grading and landscaping will be used to minimize slopes, and water bars will be installed on disturbed slopes in areas with unstable soils where seeding alone may not adequately control erosion. Erosion control efforts will be monitored by the Operators and necessary modifications made to control erosion (43 CFR 3160, Onshore Oil and Gas Order No. 1, I. Accountability.).

12. Sufficient topsoil or other suitable material to facilitate revegetation will be segregated from subsoils during all construction operations requiring excavation and will be returned to the surface upon completion of operations. Soils compacted during construction will be ripped and tilled as necessary prior to reseeding. Cut and fill sections on all roads and along pipelines will be revegetated with native species.

13. Any accidental soil contamination by spills of petroleum products or other hazardous materials will be cleaned up and the soil disposed of or rehabilitated according to Wyoming DEQ Solid Waste Guidelines (#2) for petroleum contaminated soils.

14. Operators will restrict off-road vehicle (ORV) activity by employees and contract workers to the immediate area of authorized activity or existing roads and trails.

15. Project-related travel will be limited to only that necessary for efficient project operation during periods when soils are saturated and excessive rutting could occur.

Reclamation

1. Current BLM policy recognizes that there may be more than one correct way to achieve successful reclamation, and a variety of methods may be appropriate to the varying circumstances. BLM will continue to allow applicants to use their own expertise in recommending and implementing construction and reclamation projects. These allowances still hold the applicant responsible for final reclamation standards of performance.

2. BLM reclamation goals emphasize: 1) protection of existing native vegetation; 2) minimal disturbance of existing environment; 3) soil stabilization through establishment of ground cover; and 4) establishment of native vegetation consistent with land use planning.

3. All reclamation is expected to be accomplished as soon as possible after the disturbance occurs with efforts continuing until a satisfactory revegetation cover is established and the site is stabilized (3 to 5 years). Only areas needed for construction will be allowed to be disturbed.

4. On all areas to be reclaimed, seed mixtures will be required to be site-specific, composed of native species, and will be required to include species promoting soil stability. A pre-disturbance species composition list must be developed for each site if the project encompasses an area where there are several different plant communities present. Livestock palatability and wildlife habitat needs will be given consideration in seed mix formulation. BLM guidance for native seed use is BLM Manual 1745 (Introduction, Transplant, Augmentation, and Reestablishment of Fish, Wildlife, and Plants), and Executive Order No. 11987 (Exotic Organisms).

5. Interseeding, secondary seeding, or staggered seeding may be required to accomplish revegetation objectives. During rehabilitation or areas in important wildlife habitat, provision will be made for the establishment of native browse and form species, if determined to be beneficial for the habitat affected. Follow-up seeding or corrective erosion control measures may be required on areas of surface disturbance which experience reclamation failure.

6. Any mulch used will be weed free and free from mold, fungi, or noxious weed seeds. Mulch may include native hay, small grain straw, wood fiber, live mulch, cotton, jute, synthetic netting, and rock. Straw mulch should contain fibers long enough to facilitate crimping and provide the greatest cover.

7. The Operator, grantee or lessee will be responsible for the control of all noxious weed infestations on surface disturbances. Aerial application of chemicals will be prohibited within 1/4 mile of special status plant locations, and hand application will be prohibited within 500 feet. Control measures will adhere to those allowed in the Rock Springs District Noxious Weed Control EA (USDI 1982a) or the Regional Northwest Area Noxious Weed Control Program EIS (USDI 1987). Herbicide application will be monitored by the BLM authorized officer.
8. Recontouring and seedbed preparation will occur immediately prior to reseeding on the unused portion of well locations, road ROWs, and entire pipeline ROWs outside of road ROWs. In the event of uneconomical wells, Operators will initiate reclamation of the entire well location, access road, and adjacent disturbed habitat as soon as possible. The lessees and operators have the responsibility to see that their exploration, development, production, and construction operations are conducted in a manner which results in the proper reclamation of disturbed lands (43 CFR 3160, Onshore Oil and Gas Order No. 1; I.). Operators will be expected to monitor reclamation as specified in the Reclamation Plan to determine and ensure successful establishment of vegetation. No consent to termination of any bond will be given by the authorized officer until all the terms and conditions of the lease or permit have been met (43 CFR 3104.8; 3154.3).

9. Proper erosion and sediment control structures and techniques will be incorporated by the Operators into the design of well pads, roads, pipelines, and other facilities. Revegetation using a BLM-approved, locally adapted seed mixture containing native grasses, forbs, and shrubs will begin in the first appropriate season following disturbance. Vegetation removed will be replaced with plants of equal forage value and growth form using procedures that include:

    - fall reseeding (September 15 to freeze-up), where feasible;
    - spring reseeding (April 30 - May 31) if fall seeding is not feasible;
    - deep ripping of compacted soils prior to reseeding;
    - surface pitting/roughening prior to reseeding;
    - utilization of native cool season grasses, forbs, and shrubs in the seed mix;
    - interseeding of shrubs into an established stand of grasses and forbs at least one year after seeding the grasses and forbs;
    - appropriate, approved weed control techniques;
    - broadcast or drill seeding, depending on site conditions; and
    - fencing of certain sensitive reclamation sites (e.g., riparian areas, steep slopes, and areas within 0.5 mi of livestock watering facilities) as determined necessary through monitoring.

10. Operators will monitor noxious weed occurrence on the project area and implement a noxious weed control program in cooperation with the BLM and Sublette County to ensure noxious weed invasion does not become a problem. Weed-free certification by county extension agents will be required for grain or straw used for mulching revegetated areas. Gravel and other surfacing materials used for the project will be free of noxious weeds.

Candidate Plants/Special Status Plants

1. Mitigation options to avoid or reduce impacts to rare plants may be limited due to specific habitat requirements, or lack of necessary biological information to make such an assessment. Most of the common techniques such as off-site compensation or habitat restoration have proven largely unsuccessful, although seedbanking is commonly performed in order to attempt off-site propagation. Mitigation plans for areas where impacts to these species cannot be avoided are designed to provide special management actions that minimize the overall impact to the species. However, due to the difficulties of providing successful mitigation options, impacts to candidate plants are considered less than significant only if no net loss of population size or habitat quality results.

2. "No net loss" is intended to mean that BLM must "ensure that [actions authorized, funded, or carried out by BLM]...affecting the habitat of candidate species are carried out in a manner that is consistent with the objectives for managing those species. BLM shall not carry out any actions that will cause any irreversible or irretrievable commitment or resources or reduce the future management options for the species involved" (BLM Manual 6840).

3. Operators will finance site-specific surveys for special status plant species (SSPS) prior to any surface disturbance in areas determined by the BLM to contain potential habitat for such species (Directive USDI-BLM 6840). These surveys will be completed by a qualified botanist as authorized by the BLM and this botanist will be subject to BLM's SSPS survey policy requirements. Data from these surveys will be provided to the BLM, and if any SSPS or habitats are found, BLM recommendations for avoidance or mitigation will be implemented.

4. Herbicide applications will be kept at least 500 ft from known SSPS populations or other distance deemed safe by the Authorized Officer.

5. Well locations and associated roads and pipelines will be located to avoid or minimize impacts in areas of high value (e.g., SSPS habitats, wetland/riparian areas).

Watershed

1. Stream sediment, phosphate, and salinity load will be reduced where possible. In areas where ground water exists 20 feet or less from the surface (Wyoming Oil & Gas Commission), produced water from oil and gas operations will be disposed of in an approved closed storage system or by other acceptable means complying with Onshore Order #7.

2. Where depth to groundwater is less than 100 feet and soil permeability is more than 0.1 foot/day, plants, mills, or associated tailings ponds and sewage lagoons will not be allowed.

3. To protect watershed resources during wet periods, vehicle travel, particularly large or heavy truck traffic, will not be allowed unless travel occurs on roads that are graveled for all-season use.

4. Crossings of ephemeral, intermittent, and perennial streams associated with road and utility line construction will generally be restricted until after spring runoff and normal flows are established.

5. Floodplains by their very nature are unsafe locations for permanent structures. With an inundation of flood waters, soils disturbed by construction could experience a rate of erosion greater than undisturbed sites. There is an additional concern over the potential for flood waters to aid in the dispersal of hazardous materials that may be stored within such structures. Therefore, floodplains will have no permanent structures constructed within their boundaries unless it can be demonstrated on a case-by-case basis that there is no physically practical alternative. In cases where floodplain construction is approved, additional constraints could be applied.

6. Floodplain Executive Order 11988 (Section 2.a.(2)) states in summary that "...if the HEAD OF THE AGENCY finds that the only practicable alternative consistent with the law and the policy set forth in the Order requires siting in a floodplain, the agency shall, prior to taking action, 1) design or modify its action in order to minimize potential harm...and 2) prepare and circulate a notice containing an explanation of why the action proposed is to be located in the floodplain."

7. Floodplain Executive Order 11988 (Section 3), in reference to federal real property and facilities states that agencies shall, if facilities are to be located in a floodplain (i.e., no practicable alternative), apply flood protection measures to new construction or rehabilitate existing structures, elevate structures rather than fill the land, provide flood height potential markings on facilities to be used by the public, and when the property is proposed for lease, easement, right of way, or disposal, the agency has to attach restriction on uses in the conveyance, etc., or withhold from such conveyance.

8. Disturbances to the soils, such as roads and well pads, can easily concentrate the flow of water increasing its erosive potential. A 500-foot buffer provides an opportunity for such flows to be disbursed before they reach a stream and often precludes construction in riparian zones. Therefore, there will be no construction within 500 feet of a stream unless it can be demonstrated on a case-by-case basis that there is no physically practical alternative. In cases where construction within the 500-foot zone is approved, additional constraints could be applied.

9. All surface disturbance, permanent facilities, etc., shall remain a minimum of 500 feet away from the edge of surface waters, riparian areas, wetlands, and 100-year floodplains unless it is determined through site specific analysis, approved in writing by the Authorized Officer, that there is no practicable alternative to the proposed action. If such a circumstance exists, then all practicable measures to mitigate possible harm to these areas must

be employed. These mitigating measures will be determined case by case and may include, but are not limited to, diking, lining, screening, mulching, terracing, and diversions.

Wilderness

1. A controlled surface use stipulation will be applied for activities within 1/4 mile or the visual horizon (whichever is closer) of the Wilderness Study Area (WSA) boundary. Actions within or adjacent to the WSAs will be evaluated on a case-by-case basis to determine if appropriate mitigation will be necessary.

Geological/Paleontological Resources

1. Wells, pipelines, and ancillary facilities will be designed and constructed such that they will not be damaged by moderate earthquakes. Any facilities defined as critical according to the Uniform Building Code will be constructed in accordance with applicable Uniform Building Code Standards for Seismic Risk Zone 2B.

2. In areas of paleontological sensitivity, a determination will be made by the BLM as to whether a survey by a qualified paleontologist is necessary prior to the disturbance. In some cases, construction monitoring, project relocation, data recovery, or other mitigation will be required to ensure that significant paleontological resources are avoided or recovered during construction (see BLM Handbook and Manual 8270 for guidance on paleontological assessment and mitigation).

3. If paleontological resources are uncovered during surface-disturbing activities, Operators will suspend operations at the site that will further disturb such materials and immediately contact the AO, who will arrange for a determination of significance, and, if necessary, recommend a recovery or avoidance plan. Mitigation of impacts to paleontological resources will be on a case-by-case basis, and Operators will either avoid or protect paleontological resources.

Cultural/Historical Resources

1. Operators will follow the Section 106 compliance process prior to any surface-disturbing activity and will either avoid or protect cultural resource properties.

2. Operators will halt construction activities at the site of previously undetected cultural resources discovered during construction. The BLM will be notified immediately, and consultation with the Wyoming State Historic Preservation Office (SHPO) and, if necessary, the Advisory Council, will be initiated to determine proper mitigation measures pursuant to 36 CFR 800.11 or other treatment plans, programmatic agreements, or discovery plans that may direct such efforts. Construction will not resume until a Notice to Proceed is issued by the BLM.

3. Cultural resources and Frozen Ground Condition of Approval: In culturally sensitive soils, if cultural resources are located within frozen soils or sediments precluding the ability to adequately record or evaluate the find, construction work will cease and the site will be protected for the duration of frozen soil conditions. Following natural thaw, recordation, evaluation and recommendations concerning further management will be made to the authorized officer, who will consult with affected parties. Construction work will be suspended until management of the threatened site has been finalized.

4. Should future work identify any traditional Native American religious or sacred sites, consultation among the BLM, the affected Native American group, the Wyoming SHPO and the project proponent will occur to resolve conflicts. This consultation will occur on a case-by-case basis, or in conformance with an approved Native American Concerns Agreement Document.

5. Operators should inform their employees, contractors and subcontractors about relevant Federal regulations intended to protect archaeological and cultural resources. All personnel should be informed that collecting artifacts--including arrowheads--is a violation of Federal law and that employees engaged in this activity may be subject to disciplinary action, which could include dismissal.

6. Equipment operators should be informed that a cultural resource could be found anywhere; and if they uncover a site during construction, surface disturbing activities at the site must be immediately halted and the BLM notified.

7. Historic trails will be avoided. Surface disturbing activities will avoid areas within 0.25 miles of a trail unless such disturbance will not be visible from the trail or will occur in an existing visual intrusion area. Historic trails will not be used as haul roads. Placement of facilities outside 0.25 miles that are within view of the Lander Trail will be located to blend the site and facilities in with the background.

Water Resources

1. Owners or operators of onshore facilities (any facility of any kind, or drilling or workover rigs) which, due to their location, could reasonably be expected to discharge oil in harmful quantities (as defined in 40 CFR part 110), into or upon the navigable waters of the United States or adjoining shorelines, shall prepare a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with 40 CFR 112.7. Owners or operators of drilling or workover rigs need not prepare a new SPCC Plan each time the facility is moved to a new site. The SPCC Plan may be a general plan, using good engineering practice (40 CFR 112.3 (a), (b), and (c)).

2. Owners or operators of a facility for which an SPCC Plan is required shall maintain a complete copy of the Plan at such facility if the facility is normally attended at least 8 hours per day, or at the nearest field office if the facility is not so attended (40 CFR 112.3(e)).

3. SPCC Plans will be implemented and adhered to in a manner such that any spill or accidental discharge of oil will be remediated. An orientation should be conducted by the Operators to ensure that project personnel are aware of the potential impacts that can result from accidental spills and that they know the appropriate recourse if a spill occurs. Where applicable and/or required by law, streams at pipeline crossings will be protected from contamination by pipeline shutoff valves or other systems capable of minimizing accidental discharge.

4. If reserve pit leakage is detected, operations at the site will be curtailed, as directed by the BLM, until the leakage is corrected.

5. All natural gas wells will be cased and cemented to protect subsurface mineral and freshwater zones. Unproductive wells and wells that have completed their intended purpose will be properly abandoned and plugged using procedures identified by the Office of State Oil and Gas Supervisor, Rules and Regulations of WOGCC and the BLM.

6. Operators will avoid disturbance within 500 ft of wetland/riparian areas and open water areas and within 100 ft of ephemeral/intermittent drainages, where possible. To mitigate potential impacts caused by flooding during the life of the project, construction in flood-prone areas will be limited to late summer, fall, or winter when conditions are generally dry and streamflows are low or non-existent. Additional mitigation to lessen any impacts from flooding or high flows during and after construction will include the avoidance of areas with high erosion potential (i.e., steep slopes, floodplains, unstable soils); reestablishment of existing contours where possible; and implementation of appropriate erosion and sediment control and revegetation procedures.

7. All water used in association with this project will be permitted through the Wyoming State Engineer's Office (WSEO).

8. Erosion-prone (e.g., drainages) or high-salinity areas will be avoided where possible. Necessary construction in these areas will be done to avoid periods of runoff (e.g., in the late summer, fall, or winter prior to soil freezing).

9. Proper containment of oil and produced water in tanks, drilling fluids in reserve pits, as well as locating staging areas for storage of equipment away from drainages will prevent potential contaminants from entering surface waters.

10. Prudent use of erosion control measures, including diversion terraces, riprap, matting, temporary sediment traps, and water bars will be employed as necessary. These erosion control measures will be used as appropriate to control surface runoff generated at well locations. The type and location of sediment control structure, including construction methods, will be described in APD and ROW plans. If necessary, to reduce suspended sediment loads and remove potential contaminants, Operators may treat diverted water in detention ponds prior to release to meet applicable state or federal standards.

11. Channel crossings by pipelines will be constructed so that the pipe is buried at least 4 ft below the channel bottom.

12. Channel crossings by roads and pipelines will be constructed perpendicular to flow. Streams/channels crossed by roads will have culverts installed at all appropriate locations as specified in the BLM Manual 9112-Bridges and Major Culverts (BLM 1990) and Manual 9113-Roads (BLM 1985). Streams will be crossed perpendicular to flow, where possible, and all stream crossing structures will be designed to carry the 25-year discharge event or other capacities as directed by the BLM.

13. Disturbed channel beds will be reshaped to their approximate original configuration.

14. Operators or pipeline contractors will comply with state and federal regulations for water discharged into an established drainage channel. The rate of discharge will not exceed the capacity of the channel to convey the increased flow. Waters that do not meet applicable state or federal standards will be evaporated, treated, or disposed of at an approved disposal facility. The disposal of all water (hydrostatic test water, stormwater, produced water) will be done in conformance with WDEQ-Water Quality Division (WQD), BLM Onshore Oil and Gas Order No. 7, and WOGCC rules and regulations.

15. Operators will prepare Storm Water Pollution Prevention Plans (SWPPPs) for their respective areas of field development as required by WDEQ National Pollution Discharge Elimination System (NPDES) permit requirements.

16. Any disturbances to wetlands and/or waters of the U.S. will be coordinated with the COE, and 404 permits will be secured as necessary prior to disturbance.

17. Operators will evaluate all project facility sites for occurrence of waters of the U.S., special aquatic sites, and wetlands, per COE requirements. All project activities will be located outside of these sensitive areas, where practical.

18. Where disturbance of wetlands, riparian areas, streams, and ephemeral/intermittent stream channels cannot be avoided, COE Section 404 permits will be obtained by the operator as necessary, and, in addition to applicable above listed measures, the employment of the following measures will be applied where appropriate:

    - Wetland areas will be crossed during dry conditions (i.e., late summer, fall, or dry winters); winter construction activities will occur only prior to soil freezing or after soils have thawed.
    - Streams, wetlands, and riparian areas disturbed during project construction will be restored to as near pre-project conditions as practical, and if impermeable soils contributed to wetland formation, soils will be compacted to reestablish impermeability.
    - Wetland topsoil will be selectively handled.
    - Areas will be recontoured and BLM-approved species will be used for reclamation.
    - Reclamation activities will begin on disturbed wetland areas immediately after completion of project activities.

Noise

1. The Operator will be required to apply noise mitigation at well locations, as determined necessary by the Authorized Officer, on a case-by-case basis. All engines required for project activities will be properly muffled and maintained in accordance with state and federal laws.

2. Construction, drilling, completion, testing, and production facility installation activities may be restricted due to noise proximal to active raptor nests during the nesting period and in sage grouse breeding and nesting areas. Road use and travel pattern specifications will be identified in the Transportation Plan and designed, in part, to keep traffic to a minimum to reduce noise impacts.

Wildlife and Fisheries

1. The Operators, in consultation with representatives from BLM, WGFD, USFWS, and other interested groups such as area livestock operators, will prepare and adhere to a Wildlife Monitoring/Protection Plan for this project. The plan will be kept at on-site offices or nearest operator and in the BLM Field Office.

2. To minimize wildlife mortality due to vehicle collisions, Operators should advise project personnel regarding appropriate speed limits in the project area. Also, roads no longer required for operations will be reclaimed as

soon as possible. Some existing roads in the project area may be closed and reclaimed by the Operator as requested by the BLM. Potential increases in poaching should be minimized through employee and contractor education regarding wildlife laws. If wildlife law violations are discovered, the offending employee will be subject to disciplinary action, which could include dismissal by the Operator, and/or prosecution by the WGFD.

3. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30. The BLM can and does grant exceptions to seasonal restrictions if the wildlife biologist, in consultation with the WGFD, feels that granting an exception will not jeopardize the population being protected. Wildlife biologists use a set of criteria when considering a request for an exception (See section A-5 Procedures for Processing Applications in Areas of Seasonal Restrictions).

4. Operators will comply with the following guidelines for avoidance of raptor nests:

   - Well locations and associated road and pipeline routes will be selected and designed to avoid disturbances to areas of high wildlife value (e.g., raptor nest sites, wetland areas).
   - All surface-disturbing activity (e.g., road, pipeline, well pad construction, drilling, completion, workover operations) will be seasonally restricted from February 1 through July 31 within a 0.5-mi radius of all active raptor nests, except ferruginous hawk nests, for which the seasonal buffer will be 1.0 mi. (An active raptor nest is defined as a nest that has been occupied within the past 3 years.) The seasonal buffer distance and exclusion dates applicable may vary depending on such factors as the activity status of the nest, species involved, prey availability, natural topographic barriers, line-of-site distance(s), and other conflicting issues such as cultural values, steep slopes, etc.
   - Raptor nest surveys will be conducted for active nests within a 0.5- to 1.0-mile radius of proposed surface use or activity areas if such activities are proposed to be conducted between February 1 and July 31.
   - Permanent and high profile structures such as well locations, roads, buildings, storage tanks, overhead power lines, etc., and other structures requiring repeated human presence will not be constructed within 825 ft (1,000 ft. for ferruginous hawks; 2,000 ft for bald eagles) of active raptor nests. The buffer distance may vary depending upon the species involved, prey availability, natural topographic barriers, line-of-sight distances, and other conflicting issues such as cultural values, steep slopes, etc. Linear disturbances such as pipelines, seismic activity, etc., could be granted exceptions.

5. Operators will comply with the following guidelines for avoidance of sage grouse leks and nesting areas:

   - Surface disturbance within 0.25 mi of a sage grouse lek will be avoided. Linear disturbances such as pipelines, seismic activity, etc., could be granted exceptions.
   - Permanent, high profile structures such as buildings, storage tanks and powerlines, etc. will not be constructed within 0.25 mi of a lek.
   - During the sage grouse mating season, between March 1 and May 15, surface uses and activities will not be allowed between the hours of midnight and 9:00 AM, within a ½ mile radius of active leks (i.e., those leks occupied by mating birds.
   - Operators will restrict construction activities between March 1 and June 30 within a 2.0-mi radius of active sage grouse leks on suitable sage grouse nesting habitat as determined during on-site reviews of proposed development areas.
   - If active sage grouse strutting or nesting is identified in an area proposed for disturbance which is outside the dates of March 1 through June 30, surface-disturbing activities will be delayed in the area until strutting or nesting is completed.
   - If existing information is not current, field evaluations for sage grouse leks and/or nests will be conducted by a qualified biologist prior to the start of activities in potential sage grouse habitat. These field evaluations for leks and/or nests will be conducted if project activities are planned in potential sage grouse habitat between February 1 and July 31. BLM wildlife biologists will ensure that such surveys are conducted using proper survey methods.

5. Reserve, workover, and production pits potentially hazardous to wildlife will be adequately protected (e.g., fencing, netting) to prohibit wildlife access as directed by the BLM.

6. Wildlife-proof fencing will be utilized on reclaimed areas, in accordance with standards specified in BLM Fencing Handbook 1741-1, if it is determined that wildlife species are impeding successful vegetation establishment.

7. ROW fencing associated with this project will be kept to a minimum and, if necessary, fences will consist of four-strand barbed wire meeting WGFD approval and BLM Fencing Handbook 1741-1 standards for facilitating wildlife movement.

8. USFWS and WGFD consultation and coordination will be conducted for all mitigation activities relating to raptors and T&E species and their habitats, and all permits required for movement, removal, and/or establishment of raptor nests will be obtained.

9. Surveys for T&E and candidate wildlife species will be implemented in areas of potential habitat by a qualified biologist prior to disturbance. Findings will be reviewed by the BLM prior to or as components of ROW applications and APD review processes. If T&E and/or candidate species are found in the area, consultation with the USFWS will be initiated, and construction activities will be curtailed until there is concurrence between BLM, USFWS, and the Operator on what activities can be authorized.

10. Operators will adhere to all survey, mitigation, and monitoring requirements identified in the T&E Biological Assessment (BA) incorporated into the EIS for this project.

11. Mountain Plover (proposed for listing) - Surveys will be conducted within suitable plover habitat by a qualified biologist in accordance with USFWS guidelines (A copy of the guidelines may be obtained from the USFWS, BLM, or WGFD). Two types of surveys may be conducted. 1) surveys to determine the presence/absence of breeding plovers (i.e., displaying males and foraging adults), or 2) surveys to determine nest density.

    - Surveys to determine presence/absence of the plover should be conduct between May 1 and June 15 through out the breeding range.
    - Surveys conducted to determine density of nesting plovers should be conducted between the last week in June to July 4th.

    The survey type chosen for a project and the extent of the survey area (i.e., beyond the edge of the construction or operational ROW) will depend on the type of project activity being analyzed (e.g., construction, operation) and the users intent. Some techniques common to each survey method are:

    - Surveys will be conducted during early courtship and territorial establishment. Throughout the breeding range, this period extends from approximately mid-April through early July. However, the specific breeding period depends on latitude, elevation, and weather.
    - Conduct surveys between local sunrise and 10 a.m. and from 5:30 p.m. and sunset (periods of horizontal light to facilitate spotting the white breast of the adult plovers).
    - Drive transects within the project area to minimize early flushing. Flushing distances for mountain plovers may be within 3 meters (9 to 10 feet) for vehicles, but plovers often flush at 50 to 100 meters (164 to 328 feet) when approached by humans on foot.
    - For all breeding birds observed, conduct additional surveys immediately prior to construction activities to search for active nest sites.
    - If an active nest is located, an appropriate buffer area should be established to prevent direct loss of the nest or indirect impacts from human-related disturbance. The appropriate buffer distance will vary, depending on topography, type of activity proposed, and duration of disturbance. For disturbances including pedestrian foot traffic and continual equipment operations, a 200-meter (656-foot) buffer is recommended.

12. Black-Footed Ferret (listed) - Proposed construction sites in the deveopment area not examined for prairie dogs in past surveys will be examined prior to surface-disturbing activities to confirm the presence or absence of prairie dog colonies. Confirmation will be made of white-tailed prairie dog colony/complex size, burrow density, and any other data indicating whether the criteria established in the USFWS (1989) guidelines for black-footed ferret habitat are met. If prairie dog colonies are found, a qualified biologist will locate all project components to avoid direct impacts to the colony. If this is not practical, black-footed ferret surveys of prairie dog colonies, where required by the USFWS, will be conducted in accordance with USFWS guidelines and requirements. This information will be provided to the USFWS in accordance with Section 7 of the ESA, as amended, and the Interagency Cooperation Regulations.

13. Endangered Fish - The USFWS Colorado River Endangered Fish Recovery Program requires a depletion fee be paid by the proponent to help support the recovery program. The fee is required where depletion of water is in

excess of 100 acre feet from the Colorado Rover system (USFWS July 5, 1994). The current depletion rate, which is adjustable based on the Consumer Price Index, is $13.04 per acre-foot. Payment for any depletion will be by certified check or money order to the National Fish and Wildlife Foundation, 11230 Connecticut Ave., N.W.,Suite 900, Washington, D.C., 20036.

Livestock/Grazing Management

1. Reclamation of nonessential areas disturbed during construction activities will be accomplished in the first appropriate season after well completion. Nonessential areas include portions of the well locations not needed for production operations, the borrow ditch and outslope portions of new road ROWs, entire pipeline ROWs outside of road ROWs, and all roads and associated disturbed areas at nonproductive well locations. Operators will repair or replace fences, cattleguards, gates, drift fences, and natural barriers to maintain current BLM standards. Cattleguards will be used instead of gates for livestock control on most road ROWs. Livestock will be protected from pipeline trenches, and livestock access to existing water sources will be maintained.

2. The BLM, Operators, and livestock permittees will review, at least annually, livestock impacts from roads or disturbance from construction and drilling activities. Appropriate measures will be taken to correct any adverse impacts, should they occur.

Recreation

1. Employees, contractors, and subcontractors will not occupy camp sites more than 14 days on federal lands or at federal recreation sites.

2. Employees, contractors, and subcontractors will abide by all state and federal laws and regulations regarding hunting.

Visual Resources

1. Within Visual Resource Management (VRM) Class II and III areas, during on-site reviews, the BLM and the Operator will evaluate potential disturbances and impacts to visual resources and identify appropriate mitigation. New roads will be designed so that they conform with the landscape, incorporating curves to eliminate distant, straight line impacts; every opportunity will be taken to reclaim existing road ROWs that are not used when new roads are designed over them; revegetation will be initiated as soon as possible after disturbance; pipeline ROWs will be located within existing ROWs whenever possible; and aboveground facilities not requiring safety coloration will be painted with appropriate nonreflective standard environmental colors (Carlsbad Canyon or Desert Brown, or other specified standard environmental color). Topographic screening, vegetation manipulation, project scheduling, and traffic control procedures will all be employed as deemed appropriate by the BLM to further reduce visual impacts.

2. Within Visual Resource Management (VRM) Class IV areas, the BLM and Operators will utilize existing topography to screen roads, pipeline corridors, drill rigs, wells, and production facilities from view, where practical. Operators will paint all aboveground production facilities with appropriate colors (e.g., Carlsbad Canyon or Desert Brown) to blend with adjacent terrain, except for structures that require safety coloration in accordance with OSHA requirements.

Health and Safety/Hazardous Materials

1. Operators will utilize WDEQ-approved portable sanitation facilities at drill sites; place warning signs near hazardous areas and along roadways; place dumpsters at each construction site to collect and store garbage and refuse; ensure that all refuse and garbage is transported to a State-approved sanitary landfill for disposal; and institute a Hazard Communication Program for its employees and require subcontractor programs in accordance with OSHA (29 CFR 1910.1200).

2. In accordance with 29 CFR 1910.1200, a Material Safety Data Sheet for every chemical or hazardous material brought on-site will be kept on file at the Operator's field office.

3. SPCCPs will be written and implemented where applicable in accordance with 40 CFR 112. (Also see Water Resources section, page 20.)

4. Chemical and hazardous materials will be inventoried and reported in accordance with the SARA Title III (40 CFR 335). If quantities exceeding 10,000 pounds or the threshold planning quantity are to be produced or stored, the appropriate Section 311 and 312 forms will be submitted at the required times to the State and County Emergency Management Coordinators and the local fire departments.

5. Any hazardous wastes, as defined by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, will be transported and/or disposed of in accordance with all applicable federal, state, and local regulations.

6. Hazardous Material Containment:

   a. All storage tank batteries, including drain sumps and sludge holdings at compressor facilities, installed on location and designed to contain any oil, glycol, produced water, or other fluid which may constitute a hazard to public health or safety, shall be surrounded by a secondary means of containment for the entire contents of the largest single tank in use plus one foot of freeboard for precipitation or 110 percent of the capacity of the largest vessel. The appropriate containment and/or diversionary structures or equipment, including walls and floor, to prevent discharged fluid from reaching ground, surface, or navigable waters, shall be impervious to any oil, glycol, produced water, or other fluid for 72 hours and shall be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not drain, infiltrate, or otherwise escape to ground, surface, or navigable waters before cleanup is completed.

   b. Treaters, dehydrators and other production facilities installed on location, that have the potential to leak or spill oil, glycol, produced water, or other fluid which may constitute a hazard to public health or safety, shall be placed on or within appropriate containment and/or diversionary structure to prevent spilled or leaking fluid from reaching ground, surface, or navigable waters. The appropriate containment and/or diversionary structure shall be sufficiently impervious to oil, glycol, produced water, or other fluid and shall be installed so that any spill or leakage, will not drain, infiltrate, or otherwise escape to ground, surface, or navigable waters before cleanup is completed.

   c. Notice of any spill or leakage, as defined in BLM NTL 3A, will be immediately reported by the Operator to the Authorized Operator and other such federal and state officials (e.g., Wyoming DEQ) as required by law. Any oral notice shall be given as soon as possible, but within 24 hours, and oral notices shall be confirmed in writing within 72 hours of any such occurrence.

7. The will be no well location or production facility surface occupancy within 0.25 miles of an occupied dwelling to prevent damage to human health and safety and/or other resources. Any surface use or occupancy within such special areas will be strictly controlled or, if absolutely necessary, prohibited.

A-3 ENVIRONMENTAL ANALYSIS AND MITIGATION OF OIL AND GAS DEVELOPMENT AND OTHER SURFACE DISTURBING ACTIVITIES - THE TIERED APPROACH

The Bureau of Land Management has developed a tiered approach to the analysis of oil and gas development. This approach is applicable to all surface disturbing activities, and is as follows:

Tier One: The Resource Management Plan (RMP) or land use plan develops the necessary policy, land use decisions, and environmental analyses to lease/develop the public lands. It is during this phase of analysis that lease stipulations are determined.

Tier Two: A more detailed evaluation of planned activity for a specific area is developed and analyzed (e.g., a field development proposal or a coordinated activity plan). An environmental analysis looks at a reasonable range of alternatives and assesses the cumulative impacts of the development. Conditions of approval (COAs) may be determined at this tier.

Tier Three: A site specific environmental analysis will be made for each APD, right-of-way (ROW), sundry notice, etc. which would assess the impacts of the proposed development. Additional COAs may be determined at this tier.

At each tiered phase of evaluation, the appropriate level of necessary and due degradation associated with the proposed development would be assessed. Where unnecessary degradation to other resources is recognized, seasonal restrictions or other protective measures would be developed for use by the decisionmaker. These would be attached to leases as stipulations, or to ROWs, APDs, sundry notices, etc., as COAs.

The tiered approach to evaluating effects of proposed actions that BLM authorizes allows for subsequent refining of planning and management decisions to avoid unnecessary and undue degradation of other resources. This is primarily done through conducting and documenting site specific environmental analyses of proposed developments, which include identifying mitigation requirements for the related impacts.

The BLM has the authority and the responsibility to manage the public lands and resources in a manner that maintains balance between commodity development and protection of environmental and other land and resource values for future generations. This authority and responsibility are paramount to the BLM's mandate to manage the public lands and resources under the concept of multiple-use, sustained yield, and environmental integrity. Furthermore, FLPMA requires the BLM to consider and coordinate with other public entities and plans, such as state and local planning documents, when making resource decisions.

If we did not have the authority to further refine our planning and management decisions at subsequent, incremental stages of proposals and decision-making, we would be required to provide protection of other resource values on the basis of only "potential" effects and only at the point of making the initial decision of whether or not to issue an oil and gas lease. This would only result in large areas being unnecessarily identified as off-limits to oil and gas leasing and other development.

Use restrictions on construction, drilling, and well completion activities for the benefit of big game and other animals are not to be applied for a blanket 5 ½- to 9-month period. They also are not to be applied as "stipulations" on existing unstipulated oil and gas leases. Rather, the need for the use of restrictions is to be determined through case-by-case review and analysis of APDs and Sundry Notices, at the time such APDs and Sundry Notices are submitted for approval. Restrictions are applied to avoid or mitigate unnecessary and undue impacts, and they should only be used for locations and time periods that are necessary and appropriate. These restrictions are applied only as COAs for APDs and Sundry Notices not as new "stipulations." The intended application of use restrictions in this manner is consistent with the terms and conditions of existing, unstipulated leases, with the provisions of the regulations in 43 CFR 3101.1-2, and with the Director's policy statement on this subject (WO IM No. 92-67).

LEASE STIPULATIONS

Stipulations are conditions, promises, or demands to be part of a lease only when the environmental and planning record demonstrates the necessity for the stipulations. Stipulations place specific limits on lease rights based on potential conflicts between lease development and various other resources. Stipulations, as such are neither "standard" nor "special", but rather a necessary modification of the terms of the lease. In order to accommodate the variety of resources encountered on federal lands, these stipulations are categorized as to how a stipulation modifies the lease rights, not by the resource(s) to be protected.

The need for a stipulation is based on an analysis of potential impacts to other resources as a result of a specific action and to help achieve a specific management objective established in a land use plan. Potential impacts which would result in unnecessary and undue resource damage if mitigation/protection measures are not used form the basis for stipulations. The methods of mitigation/protection are determined by the land management agency through land use planning and NEPA analysis.

The necessity for individual lease stipulations is documented in the lease-file record and in the appropriately referenced land use plan or other leasing analysis document. The necessary criteria for exceptions, waivers, or modifications would also be documented in the lease-file record through reference to the appropriate plan or other analysis. In all cases, use of the stipulations requires identification of specific resource values to be protected, and description of the specific geographic area covered.

Stipulations attached to noncompetitive leases require the applicants acceptance and signature. Stipulations cannot be added or deleted from existing leases without the agreement of both the lessee and lessor and must be in compliance with the requirements of the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Restrictions

attached to a lease as stipulations or lease notices at the time of lease issuance are part of the lease terms and are accepted as such by the lessee when a lease offer is filed.

LEASE NOTICES

Lease notices are a parallel tool to lease stipulations. Lease notices are attached to leases at the time of lease issuance, and convey information to assist the lessee in submitting acceptable plans of operation, or to assist in the administration of leases. If a situation or condition is known to exist that could affect lease operations, full disclosure should be made at the time of lease issuance through the use of a lease notice. A lease notice does not involve new restrictions or requirements.

PERMIT/GRANT CONDITIONS OF APPROVAL

Conditions of approval (COAs) are conditions or requirements under which a site-specific surface disturbing or human presence activity (filed as an APD, sundry notice, ROW, etc.) is approved. The need for any surface use COA must be clearly justified and documented in the applicable site-specific environmental document. Any COA must also have waiver, exception, or modification criteria identified in the site-specific environmental document to allow for changes in environmental conditions which render the mitigation required by the COA no longer appropriate or necessary.

COAs, when applied to oil and gas activities such as APDs, must provide effective mitigation to prevent undue and unnecessary degradation, but can not infringe upon the lessee's existing rights. An activity plan may not constitute the site-specific analysis necessary to show that a particular activity would result in unnecessary and undue degradation. Mere reference to the terms "unnecessary and undue degradation" is not sufficient justification to apply COAs. Further analysis (tiers two and three) providing clear evidence and convincing need for such mitigation must be prepared prior to applying COAs.

WAIVERS, MODIFICATIONS, OR EXCEPTIONS TO STIPULATIONS OR COAs

Land use plans and/or NEPA documents establish the guidelines by which future waivers, modifications, or exceptions to stipulations or COAs may be granted. Substantial modification or waiver subsequent to lease issuance is subject to public review for at least a 30-day period in accordance with Section 5102.f of the Federal Onshore Oil and Gas Leasing Reform Act of 1987. This standard would also be applied to COAs.

It is important to recognize that the authorized officer has the authority to modify the site location and design of facilities, control the rate of development and timing of activities as well as require other mitigation (i.e., COAs) under Sections 2 and 6 of the standard lease terms (BLM Form 3100-11) and under 43 CFR 3101.1-2. The authorized officer may relocate a proposed oil and gas operation up to 200 meters, or prohibit surface disturbance for up to 60 days (the 60-day/200-meter rule) by using this authority, and attaching a COA to the APD.

THE BLM Wyoming state director, or his representative, utilizing appropriate COAs, can exceed the 60-day/200-meter rule for site-specific actions, such as an APD, where there is site-specific environmental analysis and clear and convincing evidence in the documentation showing undue and unnecessary degradation would result if protective restrictions were not applied. This environmental documentation must address two factors: 1) a combination of alternative mitigation measures which is clearly consistent with lease rights does not reduce adverse impacts to an acceptable level; and 2) the identified impacts constitute unnecessary and undue degradation of public lands or resources. This takes into consideration that due and necessary degradation is acceptable.

Any application of mitigation (COA) to a post-lease operation is subject to state director review if requested by the operator. Such a review would consider whether the identified impact is unnecessary or undue degradation. If so determined, the COA would be upheld as being consistent with the granted lease rights, and within the government's reserved authority to mitigate operations. If determined to be due and necessary degradation, the COA (mitigation) would not be allowed. If the disallowed mitigation was developed in an RMP, then a plan maintenance action or amendment would be necessary to correct any decisions which may infringe on valid existing rights.

A-4 EROSION CONTROL, REVEGETATION, AND RESTORATION PLAN (ERRP)

The purpose of developing an ERRP is to allow for cooperative innovation in site development and reclamation of a disturbed area to a predetermined land use for oil and gas well field and treatment plant activities. The following is an outline of topics to be covered in an ERRP. All ERRPs must address these points but they are not limited to them. Although the ERRP is a formal document, amendments can be approved by the Authorizing Officer (AO).

NOTE: The key points of the ERRP (erosion control, revegetation, and reclamation) are addressed in point 10 of the 13 point *Surface Use Program* submitted with a site specific application for permit to drill (APD) (see On shore Oil and Gas Order N0. 1; Section III.G.4.(b)). However, a more comprehensive ERRP may be warranted using the following outline where sensitive site specific situations dictate (e.g., slopes greater than 15%, sensitive soils, within 500 ft. of riparian areas or waters, sensitive viewshed, etc.).

I. INTRODUCTION

Clear identification of reclamation goal

This is to be identified by the Federal Land Management (FLM) agency concerned and should include specific goals for percent perennial cover and species diversity expected for successful reclamation. Predisturbance cover would be used as a guideline for establishing goals.

Short description of activity causing disturbance and project time frames

Proposed start date
Duration of project
Completion date
End of project life (estimate)

Set time frames for ERRP

Seasonal reviews to initiate change
When plan would be considered implemented

Soil surveys may be required in intensively developing areas for site development mitigation and impact analysis.

II. OBLIGATION

Exactly who (individual name, address, phone) is responsible for what in the:

Design of plan
Execution of plan
Monitoring of progress

An experienced and trained professional (i.e., soil scientist, reclamation specialist) that has been approved by the AO is required to prepare and lead the implementation and monitoring of this plan.

III. SITE MAP FOR PROJECT SHOULD INCLUDE

This information should not just cover the proposed disturbed area, but should extend beyond site boundaries by approximately 150 yards.

Soil description and boundaries symbols

Soil outcrop
Photo record point
Riparian areas
Saline areas

Location and volume of proposed material stockpiles

Time material would be stored
Type of material in pile

Identify existing drainage patterns

Identify existing vegetative cover

Identify existing ORV or two-track roads

IV. ZERO RUNOFF

Zero runoff for purposes of the ERRP means: NO portion of natural or man-caused liquid would leave the disturbed area by either surface or sub-surface flow.

All disturbed sites, except linear rights-of-way, would maintain zero runoff until the area is stabilized. Stabilization would be a value that must be clearly defined in the plan.

Stabilization for purposes of the ERRP is to mean: That point in time when neither erosion nor deposition occurs which is greater than pre-disturbance. This point must be measurable (site monitoring) and self-sustaining, i.e., not dependent on site maintenance.

The AO can approve a variance from zero runoff based on detailed site specific analysis that would consider meteorology, topography, water quality, and special site design and/or construction measures.

V. EROSION CONTROL MEASURES

Description of proposed measures

Identify levels of runoff planned for, i.e.: 50 year storm, etc.
Include capacity of all retention structures and engineering design

Map locating erosion control measures placement

Include zero runoff measures.

VI. FUGITIVE DUST CONTROL

Watering or other approved dust abatement procedures would be implemented, when necessary, to prevent severe wind erosion and loss of soil materials during construction.

Describe

How and when

VII. REVEGETATION

Type

Seed
Established stock

Site Preparation
Planting

Planting time frames
Planting method and equipment

Fertilization Program

Rationale for fertilizing or not fertilizing

VIII. MONITORING SITE RECLAMATION PROGRESS

Methods
Timeframes
Photo record station (with location) of site pre-disturbance

IX. SITE ABANDONMENT

Include timeframes

X. POTENTIAL PROBLEMS

Address possible weak points

Erosion
Slumping
ORV use (i.e., cover points that might conflict over ERRP implementation with area land use goals)
Snow (management)
Company fire policy (weed control) vs. vegetation management goals

A-5 PROCEDURES FOR PROCESSING APPLICATIONS IN AREAS OF SEASONAL RESTRICTIONS

Upon receipt of an application, the project location is reviewed against the RMP to determine conformance with the plan and to identify existing resource concerns in the project area. An APD is posted for 30 days for public review.

Gather existing NEPA documents pertinent to the proposal or the project area.

Review the proposal against existing environmental documents and the RMP to determine whether existing documentation is adequate.

If existing documentation is adequate, prepare an Administrative Determination (AD) including appropriate mitigation measures (see Wyoming Instruction Memorandum WY-90-346).

If existing documentation is insufficient or nonexistent, prepare NEPA documentation as needed using appropriate format (see BLM NEPA handbook, H-1790-1).

Issue a decision on the application consistent with the AD or tiered NEPA document as appropriate.

NOTE: In seasonally crucial wildlife habitat, an approved APD will generally include a seasonal COA because: 1) the APD is valid for one year from date of issuance and BLM does not control the start-up date for project activity; and 2) field conditions during the crucial period cannot be predicted at the time of APD approval.

If a seasonally restrictive COA is needed because a lease contains no such stipulation, the decision whether to impose the restriction must also consider the reasonableness of the restriction relative to the operator's ability to exercise the benefits of the lease (43 CFR 3101.102). The need for a COA must be documented in a site-specific EA or EIS, if necessary. This analysis must provide clear and convincing evidence showing undue and unnecessary degradation would result if the COA were not applied.

PROCEDURES FOR HANDLING REQUESTS FOR EXCEPTION FROM SEASONAL STIPULATIONS AND/OR CONDITIONS OF APPROVAL

A request for exception must be initiated in writing by the operator. This may be done concurrently with submission of an application (typical for situations involving lease stipulations) or subsequent to permit approval (in the case of COAs attached to approved permit).

When requested concurrently with an application, the exception from a stipulation or from a COA is considered as part of the project proposal in RMP and NEPA compliance review.

For separate requests, the request is considered as a unique action and is analyzed and documented individually for RMP and NEPA compliance.

In both cases, processing includes coordination with WGFD for seasonal wildlife-based lease stipulations or permit COAs.

The unpredictability of weather, animal movement and condition, etc., preclude analysis of requests related to wildlife far in advance of the time periods in question.

Analyses of requests include review of potential mitigation measures and alternatives (traffic restrictions, alternative scheduling, staged activity, etc.).

CRITERIA FOR CONSIDERING EXCEPTIONS TO SEASONAL RESTRICTED ACTIVITY

Presently, land use activities may be authorized with a seasonal restriction(s), "no surface occupancy," or a distance restriction for sensitive and crucial habitats. Stipulations were developed to provide protection of natural resources. Protective wildlife seasonal stipulations are developed consistent with statewide dates. For example, big game crucial winter ranges are protected from November 15 through April 30. This restriction is not intended to close an area to development but is in place to protect big game if weather or other habitat needs dictate that it is necessary.

Over the past few years the public has received the impression that crucial winter ranges are off limits to any activity. This is true only when conditions dictate. The BLM can and does grant exceptions to seasonal restrictions if the wildlife biologist, in consultation with the WGFD, feels that granting an exception will not jeopardize the population being protected. Wildlife biologists use a set of criteria when considering a request for an exception. Professional judgement plays a key part in the bureau biologist's recommendation to the Field Manager to grant or not grant exception(s). There is no clear cut formula.

Following are some of the factors considered by the wildlife biologist to determine if a request for exception should be granted.

Big Game Winter Ranges

The criteria used for crucial big game winter range are those areas which are available, relatively intact, and which winter most of the population at its objective level in adequate body condition, eight or move years out of ten. The most crucial time period for these animals in the is usually from January 1 through March 15, and this time period is when the stipulation dates are generally enforced. However, the remaining time frames of the standard statewide stipulation (November 15 to April 30) allows the authorizing officer the option to enforce a longer seasonal restriction if winter conditions warrant.

A. General Considerations Regarding a Request for Exception

-Are the factors leading to the inclusion of the wildlife seasonal restriction still valid?

-Is the request for an exception from a lease stipulation or is it for relief from a condition of approval on an application (e.g., APD, sundry notice, ROW)?

-What are the dates for the proposed exception/relief:

B. Criteria to Consider for Granting Exceptions on Winter Ranges:

1. Animal presence or absence
2. Animal condition
3. Weather severity
   -snow conditions (depth, crusting, longevity)
   -seasonal weather patterns

-wind chill factors (indication of animals energy use)
-air temperatures & variation
-duration of condition
-forecasts - long range for duration of winter

4. Habitat Condition and Availability
-animal density, high or low
-forage condition, good or poor
-competition-livestock/other wildlife
-forage availability
-amount of forage
-snow depth
-has livestock use decreased available winter forage
-is there suitable and ample forage immediately available and accessible nearby that is not being used
5. Site Location
-likelihood of animals habituating to activity
-presence of thermal cover, wind cover, etc.
-what proportion of winter range is affected
-where is the site located within the winter range
-is there other activity in the area and is this activity likely to increase the cumulative adverse impact
6. Timing
-early in winter season
-nearing end of winter season
-what kind of and length of disruptive activity is expected
-how much of the winter is remaining when activity is likely to occur

General Considerations for Granting Exceptions to Stipulations

Elk

Short-term exceptions are more likely to be considered early (November 15-December 1) and late (April 1-April 30) in the winter season, depending on weather conditions and animal occupancy. Exceptions would not be granted if requested from December 1-March 1 unless unusually mild winter conditions prevail. Exceptions in elk calving areas (May 1-June 30) dates will not be granted due to elk sensitivity to disturbance. Displacement in open habitats is much greater than woodlots or forests, hence restricted areas will encompass larger areas in open habitat.

Moose

Exceptions will depend on weather conditions and presence of animals.

Moose habitat is given protection through riparian and stream buffer zone stipulations (500 feet from live water and riparian habitats).

Antelope

Exceptions may be granted except where physical barriers (i.e., highways, fences, rivers, canyons, etc.) limit animals ability to move into other suitable habitats. In the case of developing oil and gas fields with proposed intensive or disruptive disturbances, BLM and WGFD coordination will be required to assure that cumulative disturbance and/or range competition with other big game and livestock will not affect herd unit objectives. Exceptions to restrictions will be closely watched during severe winters when antelope movement is restricted.

Deer

Short-term exceptions may be granted early (November 15-December 1) and late (April 1-April 30) depending on weather conditions and animal occupancy, using the previously discussed criteria. Exceptions can be granted for north slopes, deep snow areas, or other habitats within crucial ranges which preclude use by wintering deer and in which access roads are determined to have little adverse impact.

Raptors

The "no surface occupancy" stipulation of February 1 to July 31, within one-half or one mile of raptor nests can be shortened, depending on nesting chronology of individual species, nest site location, and topography. Inactive nests can be excepted, as may certain types of short-term, minor disruption land use activities which are not anticipated to affect nesting success.

Sage Grouse

A "controlled surface use" stipulation will be applied to a 1/4 mile radius of active sage grouse strutting grounds to include no above-ground facilities (power lines, storage tanks, fences, etc.). Linear disturbances such as pipelines, seismic activity, etc., could be granted exceptions. A "controlled surface use" stipulation will be applied from February 1 through May 15, within 1/4 mile radius of active strutting grounds from 6 p.m. to 9 a.m. daily. The actual timing of this stipulation can be modified by weather conditions such as fog and cloudy conditions, or clear, bright moonlight nights. Seasonal restrictions would be applied through July 31, within an additional 1.75-mile radius from leks to protect sage grouse nesting habitat. Areas within that radius not used for nesting can be excepted, provided actual nesting areas are not affected.

The final determination for granting an exception to wildlife stipulations will be a decision by the BLM after consultation with the WGFD.

These procedures will be utilized for any request for exception for a surface disturbing or disruptive activity.